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THE DIAGNOSIS OF TUBERCULAR PERITONITIS.

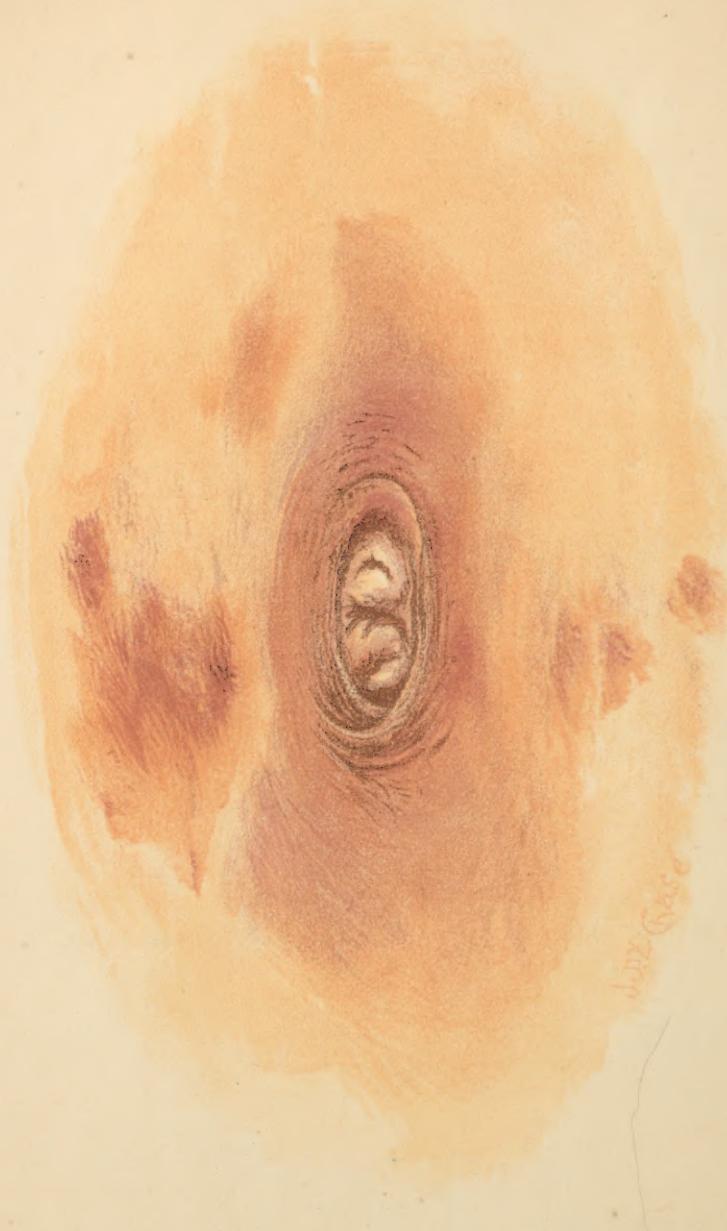
CLINICAL LECTURE DELIVERED AT THE PHILADELPHIA HOSPITAL.

BY FREDERICK P. HENRY, M.D.,

Professor of the Principles and Practice of Medicine in the Woman's Hospital of
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[REPRINTED FROM INTERNATIONAL CLINICS, VOL. IV., FIFTH SERIES.]





Perumbilical erythema in a case of tubercular peritonitis.

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GENTLEMEN,—I think none of you has any difficulty in perceiving that the abdomen of the young man on the table is greatly distended. The swelling, you will observe, is perfectly symmetrical, although the superior surface of the abdomen is somewhat flattened. On percussion over this flattened area I obtain a well-marked tympanitic resonance, while on both sides and in the hypogastric region the percussion note is flat. On turning the man on his right side, the left side, previously dull, becomes tympanitic, and on reversing this manœuvre, the right side becomes tympanitic. On palpating the dull portions of the abdomen I obtain a distinct sense of fluctuation. These signs indicate unmistakably the presence of fluid in the abdominal cavity, and the case, therefore, is one of abdominal dropsy or ascites.

A century ago the diagnosis would have ended here, for dropsy was regarded as a disease. It is now known to be nothing more than a symptom common to a number of morbid conditions, and the problem before us is to determine which of these conditions has given rise to the dropsy in this case. Before attempting to do so I will mention and briefly discuss the chief causes of abdominal dropsy, for it is impossible to make a certain diagnosis in a case such as this without having them constantly in mind.

They may be divided into two classes: 1, Obstruction to the flow of blood through the portal system; 2, irritation and inflammation of the peritoneum.

Since nearly all the blood of the portal circulation passes through the liver, it follows that the greatest obstruction to this circulation is caused by disease in, or in the neighborhood of, that organ. Cirrhosis, syphilis, and carcinoma are the affections of the liver which most frequently give rise to ascites, and in the neighborhood of that organ any

growth which, by its pressure, occludes, in whole or in part, the portal vein may be followed by the same result. Cirrhosis of the liver is undoubtedly the commonest cause of ascites. In this affection the liver is indurated, and its circulation obstructed by connective tissue in the interlobular spaces. This new-formed connective tissue is precisely similar to that which forms the scar after a wound, and, like all cicatricial tissue, is no sooner formed than it begins to contract, and continues to do so until its limit in this direction is reached. This contraction, as a matter of course, compresses the ramifications of the portal vein, and causes more or less obstruction to the flow of blood. Venous stasis of the portal radicles results and may be so great as to cause rupture of the vessels of the stomach or intestines, manifesting itself by haematemesis and melæna, or by enterorrhagia. It is only exceptionally that the venous stasis leads to rupture of blood-vessels. Still it does occur, and may be the first well-marked symptom of portal obstruction. Haematemesis or intestinal hemorrhage occurring in an intemperate man or woman should always excite suspicion of cirrhosis of the liver. In most cases of cirrhosis ascites is the first symptom which points to organic disease of the liver. All manner of gastro-intestinal disturbances may have preceded the dropsy, but they are invariably attributed to "indigestion"—and rightly so, but they are not, as is supposed, merely functional in their nature. On the contrary, they are the expression of grave organic disease. Now, in the case before us, the first symptom to alarm the patient was abdominal dropsy. It was for this he came into the hospital a few weeks ago. Whether or not this dropsy was preceded by digestive disturbances it is difficult to make out, for the man is an Italian and does not speak a word of English. The mere fact of his being an Italian is presumptive proof that he is temperate in the use of alcoholic liquors, and this is borne out by his *facies*. It is, I think, self-evident that this young man has not been a hard drinker. A former pathologist of this city, a man with unusual opportunities for observation, was in the habit of teaching that alcoholism was not the chief cause of hepatic cirrhosis, but such teaching is contrary to universal medical experience. A few years ago the effect of chronic alcoholism on the tissues was discussed at great length at the Pathological Society of London. This famous debate occupied three sessions of the society, and there was not a dissentient from the view that cirrhosis of the liver is chiefly caused by alcohol. To hold the contrary is, in my opinion, the rankest kind of pathological heresy.

Our patient's age—he is but twenty-three—also affords evidence

against the view that the cause of his dropsy is hepatic cirrhosis, while his sex is in favor of it. It is true that cases have been observed even in children, but they are so rare as to be regarded as pathological curiosities. The late Professor Palmer Howard, of Montreal, reported two cases in children, and, after an extended search through the literature of the subject, succeeded in finding records of sixty others, but, as already stated, the disease in children and even in young adults is very rare.

The age of our patient and his temperate habits lead me to exclude cirrhosis, or rather, to doubt its existence.

Syphilis of the liver may be either congenital or acquired. Congenital syphilis probably accounts for many of the cases of hepatic cirrhosis in children. In cases of acquired syphilis of the liver there will be other external signs of the systemic condition, such as the cicatrix of the primary lesion, as well as the scars of secondary lesions, a history of cutaneous eruptions, sore throat, alopecia, osteoscopic pains, etc. All these are absent in the case before us, so that I think we are quite justified in excluding syphilis.

Carcinoma of the liver is almost invariably secondary to carcinoma in some other organ, such as the stomach, pancreas, cæcum, and rectum. By the time, therefore, that it has involved the liver to such an extent as to give rise to ascites the patient is in a very cachectic condition; whereas, our patient presents none of the signs of advanced cachexia. Again, cancerous deposit in the liver always increases the size of the organ, sometimes to an enormous extent. A cancerous liver can almost always be felt projecting below the costal border, whereas, in our patient, no enlargement of the liver can be detected. Finally, our patient is too young to be suspected of cancer of the liver, which rarely occurs under forty years of age. We have now positively excluded cancer and syphilis of the liver, and rendered the presence of cirrhosis doubtful. The disease is probably not situated in the liver. Let us now search for it outside of the liver, and starting at its portal, we first have to consider thrombosis of the portal vein, pylethrombosis, as it is called. There can be no doubt that the most complete obstruction to the portal circulation is caused by thrombosis of the portal vein. This, however, never occurs as a primary affection, but is the result of pressure by new growths or enlarged glands in or near the hilus of the liver. It may also be the result of cirrhosis, occurring in the last stages of that disease.

Pylethrombosis may be positively excluded, since there is no evidence of abdominal tumor, and enlarged glands on the under surface

of the liver voluminous enough to compress the vena porta would almost inevitably obstruct the outflow of bile and give rise to jaundice.

We come now to discuss the question whether an affection of the peritoneum may have caused the effusion. Peritonitis, like pleurisy, is attended with more or less effusion, either serous or purulent, and it may be laid down as a rule applicable to both of these diseases that the amount of effusion is in inverse ratio to the acuteness of the inflammation.

Opinions are divided as to the existence of such a disease as acute idiopathic peritonitis, and certainly the great majority of cases of peritonitis are secondary to inflammation of cæcum, appendix vermiformis, and genital organs ; still, in my opinion, idiopathic cases are occasionally seen, especially in rheumatic individuals and in those suffering from Bright's disease.

The case before us is certainly not one of acute peritonitis. The onset has been altogether too insidious to warrant such a supposition. Can it be one of chronic peritonitis ? Chronic peritonitis is, I believe, always secondary to visceral disease. Such a form of inflammation is very apt to have its seat in the peritoneum covering the liver, and is known as perihepatitis. The peritoneum is often greatly thickened in this situation by inflammatory deposit, and the tendency to contraction on the part of the effused lymph is sometimes so great as to cause the anterior border of the liver to curl backward upon the superior surface of the organ. That this alteration in the shape of the liver is caused by the contraction of the thickened capsule is proved by the fact that when the capsule is removed the liver returns to its normal shape. Now, the compression exercised upon the liver by perihepatitis is quite sufficient to give rise to ascites. In fact, according to Fagge, it is a frequent cause of this symptom. According to the same authority, perihepatitis is generally associated with kidney-disease, whereas, in cirrhosis of the liver, the urine is generally normal. In order to apply these facts to the case before us we must first examine the urine. This, it is needless to say, has been done, and the urine was found to contain a decided amount of albumen as well as numerous hyaline and granular casts. Our case, therefore, closely resembles one of perihepatitis. Before deciding it to be such it is necessary to consider the remaining affections of the peritoneum which give rise to ascites. These are cancerous peritonitis and tubercular peritonitis. The objections to regarding the case as one of cancerous peritonitis are identical with those raised in discussing the question of cancer of the liver : 1,

it is generally secondary to cancer of one of the abdominal organs, those most frequently the seat of the primary disease being the stomach and ovaries; 2, it is exceedingly rare under thirty years of age, and, 3, it is decidedly more common in women than in men.

Cancer of the peritoneum may, I think, be excluded with certainty. There remains for our consideration tubercular peritonitis. This disease is insidious in its onset, abdominal pain being generally the first symptom complained of. There is usually tenderness on pressure, but this depends upon the seat of the inflammation. A favorite site is the under surface of the diaphragm, and, in such cases, tenderness on pressure may not be elicited. The most marked peculiarity of tubercular inflammation of the peritoneum is its tendency to transverse the diaphragm and attack the pleura. A concomitant pleurisy bears the strongest evidence in favor of the tubercular nature of a peritonitis, and *vice versa*. As a matter of course we now examine the chest, and we find marked dulness over the lower two-thirds of the left lung behind. In the same region the breath-sounds are extinguished, the voice distant and bronchial, and, at the upper limit of dulness there is well-marked ægophony. The signs of pleuritic effusion are unmistakable, and if further proof be needed it is found in the fact that the pulsations of the heart may be plainly felt and seen to the right of the sternum. Our patient has a cough which had been regarded as due to simple bronchitis until an examination of the sputum revealed the presence of tubercle-bacilli. The weight of clinical evidence, therefore, is strongly in favor of the case being one of tubercular peritonitis with secondary pleurisy.

I have thus far refrained from mentioning a remarkable symptom, or rather sign, which is present in this case, and which I believe to be pathognomonic of tubercular peritonitis. I refer to the distinct, circumscribed, erythematous zone which encircles this man's umbilicus. It is plainly visible from the remotest parts of this hall. You observe that the umbilicus, which is somewhat pouting from the pressure of the abdominal effusion, is, as first stated, surrounded by a broad continuous zone of erythema, and that, in addition, there are several discrete blotches of redness which show an evident tendency to become confluent with the above-mentioned zone. On account of the patient's dark complexion the redness is remarkably deep, almost of a copper tint.¹

I have seen this sign once before, in a case which resembles the one

¹ The appearance referred to is well represented in the colored plate.

before you in almost every detail. The patient was a young male, an Italian also, with ascites and pleuritic effusion and a periumbilical zone of erythema, much more extensive, but also much less vivid than that of our present patient. The case to which I refer was under my care in this hospital seven or eight years ago, and will, I am sure, be distinctly remembered by my then resident physician, Dr. Thomas G. Ashton.

I lay unusual stress upon the symptom under consideration, (1) because I believe it to be a pathognomonic one, and (2) because I have reason to think that few are aware of its existence. It is not referred to in any text-book of which I have knowledge, except that of the late Dr. Fagge, of London.¹ I believe it to be very rare, because I have seen it but twice in the course of seven years, but before I became acquainted with it I may have overlooked it, as I believe other hospital physicians are still doing. It is a sign with which surgeons, as well as physicians, should be conversant, as it may afford the former important indications, whether for operating or refraining therefrom.

Prognosis.—The diagnosis being arrived at beyond peradventure, what is to be said of the prognosis of tubercular peritonitis? It is by no means so grave as that of tuberculosis elsewhere. Many cases of tubercular peritonitis have recovered. The criticism may of course be raised that the diagnosis of these reported cases may have been faulty. This may be true with reference to some of the published cases, but such scepticism may be carried altogether too far. A remarkable case is recorded in which the tubercles on the peritoneum *were seen* and yet the patient recovered. It occurred in the practice of Sir Spencer Wells who made the erroneous diagnosis of ovarian tumor. On cutting into the peritoneum he perceived that this membrane was studded with miliary tubercles, and that there was no ovarian tumor. He at

¹ "Another sign of tubercular peritonitis is the existence of inflammation and thickening, and even of erysipelatous redness round the umbilicus. This may, perhaps, sometimes result from adhesion of the small intestine to the abdominal wall at this spot; for, in one case that I know of, a faecal fistula resulted. More commonly, perhaps, it is caused by an extension of the inflammation of the parietal peritoneum to the surface along the track of the obliterated umbilical vessels."

Since making this statement I have ascertained that Quincke also refers to periumbilical œdema and redness as a sign of tubercular peritonitis, but does not regard it as pathognomonic, since, he says, it may be due to inflammation of the connective tissue around the umbilicus (*vide* Quincke, über Ascites, Deutsches Archiv für klin. Med., Bd. xxx., 1882). While this is undoubtedly true, it does not detract from the value of the symptom in question, which derives its great diagnostic significance from its association with other symptoms. In the latter sense it may be regarded as the most certain sign of tubercular peritonitis.

once desisted from further operative measures and sewed up the wound. A sharp attack of acute peritonitis ensued, but the woman recovered, and six years later was in excellent health.

Treatment.—Last and most important comes the question of treatment, and unfortunately there is not much to say under this head. The recoveries that have taken place cannot be attributed to any specific plan of treatment. Fagge strongly advocates the application of mercurial ointment to the abdominal surface, believing that this has been productive of good results, especially in children. Others report success from the local application of tincture of iodine. The abdomen must be tapped if the accumulation of fluid in the peritoneum becomes so great as to give rise to pressure symptoms, and the same remark applies to the thoracic cavity. Thus far there have been no indications for tapping either of these cavities. In fact, the effusion in the abdominal cavity has diminished somewhat since the patient's admission. General supporting measures are, of course, indicated, and an occasional laxative to supplement by the bowels the deficient action of the kidneys which, as revealed by the examination of the urine, are the seat of chronic inflammation. No application has, as yet, been made to the abdomen, because I was anxious for you to see the zone of redness around the umbilicus. I do not feel that I have been negligent of the patient's interests by postponing such application, because I am by no means convinced of its efficacy. In this case I would prefer the tincture of iodine to the mercurial ointment, because the latter might cause salivation which I believe to be particularly injurious to one who is the subject of renal disease.

